

May 28, 2004

William H. Smock  
Executive Director  
BPD/BPA Coalition  
1850 M Street  
Suite 700  
Washington, DC 20036

Dear Mr. Smock:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for Benzene phosphorous dichloride and Benzene phosphinic acid posted on the ChemRTK HPV Challenge Program Web site on January 8, 2004. I commend the BPD/BPA Coalition for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that the BPD/BPA Coalition advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission. Please send any electronic revisions or comments to the following e-mail addresses: [oppt.ncic@epa.gov](mailto:oppt.ncic@epa.gov) and [chem.rtk@epa.gov](mailto:chem.rtk@epa.gov).

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the "Contact Us" link on the HPV Challenge Program Web site pages or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at [tsca-hotline@epa.gov](mailto:tsca-hotline@epa.gov).

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

-S-

Oscar Hernandez, Director  
Risk Assessment Division

Enclosure

cc: W. Penberthy  
M. E. Weber

**EPA Comments on Chemical RTK HPV Challenge Submission:  
Benzene phosphorus dichloride (BPD) and Benzene phosphinic acid (BPA) -**

**Summary of EPA Comments**

The sponsor, the BPD/BPA Coalition, submitted a test plan and robust summaries to EPA for BPD/BPA dated November 29, 2003. EPA posted the submission on the ChemRTK HPV Challenge Web site on January 8, 2004. The submission consists of two compounds: benzene phosphorus dichloride (CAS No. 644-97-3) and benzene phosphinic acid (CAS No. 1779-48-2).

EPA has reviewed this submission and has reached the following conclusions:

1. General. The physicochemical and environmental fate properties, as well as the health and ecological effects data, support the submitter's approach.
2. Physicochemical Properties. The submitter needs to indicate whether the boiling point values provided are measured or calculated. If calculated, then the submitter needs to provide measured data for this endpoint. For all proposed testing, the submitter needs to follow OECD guidelines.
3. Environmental Fate. EPA agrees with the submitter's approach to these endpoints.
4. Health Effects. Available data for acute and genetic toxicity are adequate for the purposes of the HPV Challenge Program. EPA agrees that the submitter's proposed genetic testing is reasonable. EPA disagrees with the submitter's contention that repeated-dose, reproductive and developmental toxicity testing is unwarranted.
5. Ecological Effects. EPA agrees with the sponsor's proposal to test benzene phosphinic acid (BPA) for all ecological endpoints (i.e., fish, aquatic invertebrate, and aquatic plants).

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.

**EPA Comments on the BPD/BPA Challenge Submission**

**General**

EPA agrees with the submitter that the rapid conversion of BPD to BPA supports the proposed approach of using data on BPA to address a number of the health and ecological endpoints for BPD.

**Test Plan**

Physicochemical Properties (melting point, boiling point, vapor pressure, partition coefficient and water solubility)

The melting point data provided by the submitter for BPD and BPA are adequate for the purposes of the HPV Challenge Program. EPA agrees with the submitter's approach for vapor pressure, partition coefficient and water solubility. The submitter needs to follow OECD guidelines when testing for these endpoints.

*Boiling Point*. The submitter needs to indicate whether the boiling point values provided for BPD and BPA are measured or calculated. If calculated, then the submitter needs to provide measured boiling point data for these chemicals.

#### Environmental Fate (photodegradation, stability in water, biodegradation, fugacity)

EPA agrees with the submitter's approach for these endpoints.

*Stability in water.* The submitter provided data from a draft study report for BPD. The submitter needs to update the robust summary if indicated by the final report.

*Biodegradation.* The testing of BPA for ready biodegradation needs to follow OECD TG 301.

*Fugacity.* The submitter provided Level III fugacity data for BPD and BPA, which will be recalculated with the new test data. EPA agrees that this approach is adequate for this endpoint. The submitter needs to incorporate all physicochemical input values into the fugacity robust summaries.

#### Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity)

Acute toxicity data submitted for BPD/BPA are adequate for the purposes of the HPV Challenge Program. The submitter's proposal to address the genetic toxicity of BPD/BPA is reasonable.

EPA disagrees with the submitter's claim that no further mammalian toxicity testing is warranted based on animal welfare concerns. Although BPD/BPA are reactive/corrosive in character, especially at the high doses used in the acute toxicity testing, the repeated-dose test submitted indicates that at lower doses (i.e., less than 1000 mg/kg) animal distress does not appear to be an issue. EPA recommends testing be conducted on BPA using OECD TG 422.

The submitter needs to address discrepancies between data described in the test plan and in the robust summaries, and errors in the reference listings.

#### Ecological Effects (fish, invertebrates, and algae)

EPA agrees with the sponsor's proposal to test benzene phosphinic acid (BPA) for all ecological endpoints (i.e., fish daphnia, and green algae) according to the OECD guidelines.

#### References

The 69 references listed in the Test Plan Reference section do not always correlate to the citations in the text.

#### Followup Activity

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.